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by

Frank Barry and Aoife Hannan

Working Paper

WP95/13

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Multinationals and Indigenous Employment: An "Irish Disease"?

by

Frank Barry and Aoife Hannan

University College Dublin

October 1995

Abstract

In trade studies, Ireland emerges as having a revealed comparative disadvantage in labour-intensive industries. Can the country's unusual industrial structure contribute to our understanding of its high unemployment? The Dutch-disease models we explore suggest that the inflow of multinationals would have stimulated employment when the exchange rate was linked to sterling, but could have had less benevolent consequences when the exchange rate became more flexible. We also discuss a number of alternative hypotheses on the relationship between multinational and aggregate employment.

We thank Jorge Braga de Macedo, Paul Walsh and Tom McCarthy for stimulating discussions on these topics. Helpful comments from Patrick Honohan, Peter Neary, Dermot McAleese and IEA Conference participants are also gratefully acknowledged.
1. Introduction

Ireland's unusual industrial structure has frequently been remarked upon. A specialisation in relatively labour-intensive exports would seem appropriate for a country that, on the strength of the unemployment statistics at least, seems relatively labour abundant.

We offer two pieces of evidence in regard to Ireland's revealed comparative disadvantage in labour-intensive goods. Table 1 compares the composition of exports of the peripheral EU countries: Ireland, Spain, Greece and Portugal. Using purchasing power of GDP per head in 1990 (measured in 1990 $US) as a measure of capital abundance, data from Prados et al. (1993) show Spain ahead at $11,733, Ireland following at $10,659, Portugal with $8389, and Greece with $7,349.

Table 1: Composition of Exports (1992)

<table>
<thead>
<tr>
<th></th>
<th>Irl</th>
<th>Spain</th>
<th>Greece</th>
<th>Porto</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, live animals, Beverages, Tobacco.</td>
<td>24%</td>
<td>14%</td>
<td>28%</td>
<td>7%</td>
</tr>
<tr>
<td>Crude materials. (hides, wool, etc.)</td>
<td>3%</td>
<td>2%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>19%</td>
<td>8%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Basic Manufactures.</td>
<td>8%</td>
<td>19%</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>Machinery, transport equipment.</td>
<td>27%</td>
<td>43%</td>
<td>4%</td>
<td>22%</td>
</tr>
<tr>
<td>Misc. Manufactures.</td>
<td>16%</td>
<td>9%</td>
<td>23%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Source: UN International Trade Statistics Yearbook (1992)

Table 1 reveals that Irish exports are concentrated not just in the Food and Agricultural sectors (as are most of the other peripheral economies), but also in the most modern of the manufacturing sectors (Chemicals and Machinery and Transport Equipment). Note the very small proportion of exports emanating from the "Basic Manufacturing" category (which includes rubber and paper products, textiles, yarns, fabrics, glass, and iron and steel tools) and "Miscellaneous Manufactures" (which includes furniture, clothing, footwear, printed and plastic materials, and toys) in comparison with Portugal and Greece. These are arguable the most labour-intensive sectors.

Ireland shares this somewhat "warped" industrial structure with Spain, the other high-unemployment EU economy. The 1993 data show an Irish unemployment rate of 18% and a Spanish rate of 21%, compared to 5.2% for Portugal, and 7.8% for Greece.1

Neven (1990) produces a different measure of comparative advantage, reproduced in Table 2 below. This shows the deviation from the national average, in each of 5 categories of industries, of net exports to the EU as a percentage of domestic production. This is a measure, then, adjusted for overall deficits or surpluses, of the extent to which countries are net exporters in any particular industrial category.

<table>
<thead>
<tr>
<th></th>
<th>Natural Res.</th>
<th>Av.K/ Av. L</th>
<th>High labour</th>
<th>High capital</th>
<th>High Human K.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>7.5</td>
<td>8.4</td>
<td>-9.1</td>
<td>18.3</td>
<td>-10.3</td>
</tr>
<tr>
<td>Denmark</td>
<td>28.5</td>
<td>-11.6</td>
<td>-26.5</td>
<td>-9.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>France</td>
<td>1.7</td>
<td>-2.6</td>
<td>-9.8</td>
<td>0.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Germany</td>
<td>-4.0</td>
<td>-0.4</td>
<td>-26.2</td>
<td>-20.0</td>
<td>5.8</td>
</tr>
<tr>
<td>Greece</td>
<td>-1.7</td>
<td>7.0</td>
<td>80</td>
<td>-1.3</td>
<td>-98.7</td>
</tr>
<tr>
<td>Ireland</td>
<td>16.5</td>
<td>-9.1</td>
<td>-61.3</td>
<td>-9.5</td>
<td>11.2</td>
</tr>
<tr>
<td>Italy</td>
<td>-14.9</td>
<td>6.1</td>
<td>36.1</td>
<td>3.1</td>
<td>-5.2</td>
</tr>
<tr>
<td>Nthlands</td>
<td>12</td>
<td>n.a.</td>
<td>-74.4</td>
<td>-17.2</td>
<td>-10.1</td>
</tr>
<tr>
<td>Portugal</td>
<td>12.2</td>
<td>4.4</td>
<td>79.4</td>
<td>10.2</td>
<td>-35.8</td>
</tr>
<tr>
<td>Spain</td>
<td>0.6</td>
<td>2.4</td>
<td>8.7</td>
<td>2.4</td>
<td>-6.6</td>
</tr>
<tr>
<td>UK</td>
<td>-0.8</td>
<td>1</td>
<td>-2.2</td>
<td>2.8</td>
<td>-4.8</td>
</tr>
</tbody>
</table>

1 The EU average at this time was 10%. [Barry, Bradley, Kennedy and O'Donnell (1994)].
The same broad picture emerges from this table. Greece and Portugal (and to a lesser extent Italy) are seen to specialise in labour-intensive industries (clothing, footwear and ceramics), sectors from which the high unemployment countries, Spain and Ireland, are notably absent. Ireland's revealed comparative advantage is in natural resources (i.e. the food industry), and in human-capital intensive sectors.

Our aim in this paper is to explore whether this warped industrial structure has a role to play in explaining Ireland's high unemployment.

Figure 1 shows the apparent crowding-out of indigenous manufacturing employment by the influx of multinational investment. Between 1973 and 1994 the numbers employed in the manufacturing sector in Ireland remained roughly constant at around 200,000. In 1973 however indigenous employment was double that in the multinational sector, whereas today the proportions are closer to half and half.

At the same time, on the basis of historical experience, Ireland appears under-industrialised. Table 3 below shows the proportion of the labour force employed in agriculture, industry and services in 1990 in the countries of the EU periphery. Alongside these are shown the proportions predicted (on the basis of their 1990 levels of GDP per head in PPP terms) from a historical analysis of structural transformation in 16 countries over the last century and a half (Prados et al. (1993)). These data reveal that Ireland's industrial sector is particularly small, with a nine percentage point gap between actual and predicted employment proportions.

Table 3: Actual and Predicted Sectoral Employment

<table>
<thead>
<tr>
<th></th>
<th>Actual proportions 1989-91</th>
<th>Predicted Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agric</td>
<td>Ind (Manuf)</td>
</tr>
<tr>
<td>Irl</td>
<td>15</td>
<td>28(20)</td>
</tr>
<tr>
<td>Spain</td>
<td>11</td>
<td>33(22)</td>
</tr>
<tr>
<td>Greece</td>
<td>24</td>
<td>28(19)</td>
</tr>
<tr>
<td>Port</td>
<td>18</td>
<td>34(25)</td>
</tr>
</tbody>
</table>

The numbers in brackets in the Industry column show the proportions in Manufacturing, revealing that Ireland’s under-industrialisation also appears when the focus is on this narrower category.

These data raise the question, then, of whether Ireland’s strategy of attracting MNCs may actually have reduced Irish employment, whether in manufacturing or in aggregate. The main body of the paper explores whether models of the Dutch disease can generate this result. Indeed in one of the earliest and most widely cited papers on the Dutch disease, Corden and Neary (1982) write that their analysis “is equally applicable to cases where the booming sector is not extractive (such as the displacement of older industry by technologically more advanced activities in Ireland, Japan or Switzerland).”

2. The Dutch Disease and Irish Conditions

To set the scene, let us briefly examine the core model of Corden and Neary (1982), which comprises three sectors, a booming sector which we shall call M (for MNCs), a lagging sector which we shall call I (for indigenous tradeables) and a non-tradeable sector N. Let the first two sectors be price takers on world markets. The intersectoral effects of a boom in one of the tradeable sectors is decomposed into (a) the resource movement effect, and (b) the spending effect.

A boom raises the marginal product of labour in M, and induces a movement of labour out of the other two sectors. This resource movement itself has two parts: (i) the direct decline in indigenous manufacturing as labour is drawn from I, and (ii) the indirect decline as the non-tradeables supply curve shifts back, creating, at the initial relative price of non-tradeables (or real exchange rate) an excess demand for non-tradeables. This appreciates the real exchange rate and reallocates resources from I to N.

So much for the resource-movement effect. Now consider the spending effect. Some part of the income generated in the booming sector, M, will be spent in the domestic economy, whether by factor owners or indirectly by government (whose tax revenues will be raised). Since the I sector is tradeable, this increased demand has no effect on production or employment there (assuming away Keynesian conditions). Its only effect then will be to raise further the price of non-tradeables, and induce a further reallocation from the I to the N sector.

This basic model has of course been much amended and added to, and these extensions are surveyed by Corden (1984) and by Neary (1985).

Let us now modify the model to suit Irish conditions. The most obvious feature of the Irish economy is its extreme openness in both goods and factor markets. Arguably labour should not be treated as a factor in short supply under Irish conditions. With the high levels of unemployment prevailing throughout most of the period under discussion, and the rapid return of much skilled labour when the Irish labour market boomed briefly relative to the UK in the late 1970s, we may wish to think of labour as being in perfectly elastic supply. This means that the expansion of employment in one sector does not necessarily entail the contraction of other sectors.

The same conclusion appears warranted when the capital market is under discussion. Although multinational companies raise significant amounts of funds for their projects locally, the Irish capital market is extremely open. Furthermore, the authorities have done much to tackle the difficulties faced by small firms in raising capital, which could be an important entry barrier.

It seems justifiable, as a first approach at least, then, to assume that there are no factors of production in short supply. The expansion of one sector need not directly cause the contraction of others. In terms of the Dutch-disease model this means that the resource-movement effect disappears. The spending effect, of course, remains.

The interaction between the spending effect and the wage rigidities that generate
unemployment, then, is the focus of our paper. The model we present below is basically a variant of Neary (1985) with unemployment explicitly taken into account.

3. The Model
Assume the M sector is the only one that uses capital, and the shock that sets the booming sector in business is a capital grant, g. This policy sucks capital into the economy, and all eventual returns to capital are assumed to be repatriated. Assuming constant returns to scale the net contribution to the economy is the wage bill (and the taxes) that the sector pays.

With zero foreign inflation tradeable-goods prices are measured by the exchange rate, e, defined as the price of foreign currency.

GNP measured in tradeable-goods prices is therefore:
\[ Y = (w/e) L_1((w/e); g) + (p/e) Y_1(w/p_c) + Y_1(w/e) \]
where the terms in square brackets are the arguments of the preceding functions.

i) The Fixed Exchange Rate Case
In the fixed exchange rate case we will assume real wage rigidity. Nominal wages therefore rise in line with the consumer price index, P,
\[ w/P = \text{constant} \]
where P is the linearly homogenous function:
\[ P = \Phi(p_c, e) \]

As in Neary (1985) we let spending be affected by real balances. The equilibrium condition for the non-tradeable sector is then:
\[ Y_1(w/p_c) = D_1[p_w; Y, M/P] \]

In the absence of the real balance effect, the equilibrium would be unaffected by equiproportionate changes in \( p_w \) and e, and would therefore define a 45 degree locus in \( (p_w, e) \) space. The real balance effect however makes the slope flatter. This equation is graphed as the NN curve in Figure 2.

Now consider the money-market equilibrium condition
\[ M/F = L(Y, r); \quad L_r > 0, L_e < 0, \]
where r is the domestic nominal interest rate, which equals the exogenous world interest rate in the fixed exchange rate regime.

From an initial equilibrium where \( p_w = e \), homogeneity of degree zero of Y implies
\[ \frac{dY}{dp_w} = \frac{dY}{de} \]
so the slope of the MM curve is \( -\Phi_y/\Phi_e \). The MM curve therefore slopes downwards in \( (p_w, e) \) space.

Finally we can define an iso-employment locus, LL, as
\[ L = L_1((w/e); g) + L_2[w/p_c] + L_3(w/e) \]
For a given value of g the real wage rigidity ensures that this is a ray through the origin, i.e. that equiproportionate increases in \( p_w \) and e will leave employment levels unchanged.

Does employment rise or fall as we move above LL? The condition for employment to rise as we move above LL is well-known. The non-tradeable sector expands, and since nominal wages rise both tradeable sectors contract. The effect on aggregate employment therefore depends on various characteristics of the two sectors. Total employment rises or falls depending on whether the following condition is met or not:
\[ \{e(L+lp_w)/e(L+e)/w)\} \leq 1 \]
The functions on the left-hand side are the elasticities of sectoral labour demands and of wage demands in non-tradeables and in the average of the two tradeable sectors. Total employment is therefore more likely to rise as we move above LL, the greater is the elasticity of labour demand and the initial level of employment in that sector, and the lower the influence of non-tradeable goods prices on the nominal wage, the latter obviously being related to the share of these goods in private consumption. With a high marginal propensity to import in Ireland, non-tradeable goods prices may be judged to

---

1 We focus primarily on high-wage unemployment in the present paper. Barry (1989) shows that a capital-grants scheme can worsen unemployment under Keynesian conditions. That result depends, however, on the multinationals that locate in the SOE taking export markets away from indigenous industry, which is unrealistic.
have a relatively small impact on wage demands. Furthermore, since the elasticity of a sector's labour-demand can be written as the elasticity of substitution divided by one minus the cost share for labour, and since the cost share for labour is likely to be highest in non-tradeable services, the labour-demand elasticity in that sector may be judged to be high.\textsuperscript{4}

This is a standard condition in the literature, and is usually considered to hold.\textsuperscript{5,6}

The three curves, NN, MM and LL are depicted in Figure 2, which defines the initial equilibrium as a pair \( p_n \) and \( e \). Now consider the impact of the capital grant \( g \). The iso-employment locus swings down to the right (assuming the elasticities condition above is met), since an increase in \( g \) allows \( p_n \) to fall somewhat while maintaining a constant level of employment.

Figure 2

The increased level of income at initial prices leads to an excess demand for non-tradeables, so the NN curve shifts upwards. This is the spending effect discussed earlier in the paper.

Now we come to a third effect, denoted in Neary (1985) as the liquidity effect. The rise in GNP raises the demand for money and, for a given money supply, requires a fall in the price level. (We leave discussion of the impact on interest rates until later). This shifts MM back to MM'.

Under fixed exchange rates, of course, the money supply is endogenous. In the short-run, then, the economy moves onto the new NN curve, NN', where the balance of payments is in surplus and employment has risen. (i.e. we are above the L'L' curve). As the domestic money stock expands, \( p_n \) is driven up further, which, according to our assumptions on the elasticity condition, raises employment still further (though now the non-traded sector is expanding at the expense of both the tradeable-goods sectors). The continuous increase in the money supply through the balance of payments shifts both the NN curve and the MM curve upwards, until they cross at a point such as C. At this point both the non-traded and the multinational sectors will have expanded at the expense of the indigenous tradeable sector, and employment will be higher. We therefore have a model capable of explaining the apparent crowding-out of indigenous manufacturing by the multinationals, but it suggests that this process has led to net employment creation rather than destruction.

ii) The Flexible Exchange Rate Case

Let us now consider how the model operates under a flexible exchange rate. This model is arguably more appropriate for the post-1979 Irish experience since pressures pushing the exchange rate either up or down ultimately contributed to the decision of the authorities on the position to be taken during the various realignments that characterised the period.\textsuperscript{7}

\textsuperscript{1} Thus Bradley, Fitz Gerald and Kearney (1991) find that labour-demand elasticities for services are generally higher than those observed for manufacturing.

\textsuperscript{2} Much use of it was made in Barry and Devereux (1995) for example.

\textsuperscript{3} Further evidence that this condition is met in the Irish case may be adduced from the results of Barry and Bradley () and Walsh (1987). Both found that fiscal expansion (before the tax increases that ultimately financed it) raised employment, i.e. that the expansion in non-tradeable employment more than dominated the contraction in tradeable sector employment induced by increased wage demands.

\textsuperscript{7} Under flexible exchange rates the nominal interest rate can deviate from rates prevailing abroad by the exchange-rate depreciation expected. As Neary (1985, footnote 25) argues, however, this will not affect the analysis. It merely makes the MM curve more steeply sloped. With the expected exchange rate change proportional to the gap between the long-run and the current exchange rate, a given increase in \( e \) not only lowers the real money supply but now also lowers the interest rate, increases the demand for money, and so requires a larger fall in \( p_n \) to restore money-market equilibrium.
Of course, exchange rate flexibility does not affect the behaviour of the homogenous system we have been working with so far. For the exchange rate regime to make a difference we need a nominal rigidity. Let us therefore add to the real rigidity of the previous section a requirement that nominal wages cannot fall, i.e. downward rigidity of nominal wages.

To see what difference this would make we can begin with the assumption of real wage rigidity in the flexible exchange rate case, and see in what direction the nominal wage would have to move to keep the real wage constant. This allows us to continue working with the NN and MM curves derived above, though the LL curve is no longer operative.

The capital-grants shock again then shifts the NN curve up to the left, and the MM curve down to the left. Because with a real wage rigidity the real economy is unaffected by the exchange rate, the long-run real exchange rate (i.e. the ratio of the price of non-tradeables to the nominal exchange rate) is the same as in Figure 2 above. In other words the intersection C lies on the same ray from the origin as the long-run equilibrium, C, attained under fixed exchange rates.

It is clear that a currency appreciation is required, while the nominal price of non-tradeables may be lower or higher than at the initial equilibrium. We can use the equations (1), (4) and (5) to compute the effects of an increase in g on p and e.

These effects are as follows:

\[
\frac{dp}{dg} = -\Omega([\{(M/P)\Phi_1(D_oY_e + D_oL_Y)\} + L_1Y_e(\Phi_2p) + (D_o/e)])
\]

which is of ambiguous sign.

\[
\frac{de}{dg} = \Omega([\{(M/P)\Phi_1(D_oY_e + D_oL_Y)\} - L_1Y_e(\Phi_2p) + (D_o/e)])
\]

which is negative, where

\[
\Omega = (M/P)(\Phi_1 + \Phi_2)((Y_e/p_2)+D_2Y_e) + L_1Y_e(\Phi_2p) + (D_o/e)\]

This determinant is negative on the basis that the NN curve is upward sloping, i.e. that a rise in p, creates an excess supply of non-tradeables and an increase in e an excess demand, or, in other words, that substitution effects dominate income effects.

From these results, using equation (3) we can compute the effects of an increase in g on the overall price level, P, and thus on the nominal wage, w, when real wages are constant.

It is easily verified that

\[
\frac{dw}{dg} = \frac{dP}{dg} = -\Omega([\Phi_1 + \Phi_2]L_1Y_e(Y_e/p_2) + (D_o/e))
\]

which is negative.

It is clear, then, that problems are going to arise in this case. The nominal wage must fall for the real wage to remain constant. Downward rigidity of the nominal wage therefore means that real wages will rise, exerting downward pressure on employment.

In addition, however, the capital grants programme exerts upward pressure on employment in M. It is unfortunately unclear which of these effects will dominate.

Under the nominal wage rigidity/flexible exchange rate case, the effects are as follows:

\[
\frac{dp}{dg} = -\Omega([\{(M/P)\Phi_1(D_oY_e + D_oL_Y)\} + L_1Y_e(D_o/e)])
\]

which is again of ambiguous sign.

\[
\frac{de}{dg} = \Omega([\{(M/P)\Phi_1(D_oY_e + D_oL_Y)\} - L_1Y_e(Y_e/p_2) + (D_o/e))]
\]

which is again negative.

\[
\Omega = (M/P)(\Phi_1 + \Phi_2)((Y_e/p_2)+D_2Y_e) + L_1Y_e(Y_e/p_2) + (D_o/e) + (M/P)(\Phi_2)
\]

which can again be assumed negative.

It is now apparent that overall employment can fall. This is particularly likely if dp/dg is negative, since then we will have a fall in employment in both non-tradeables and in indigenous manufacturing. This is more likely the stronger the income effects in the money-demand function (since then the increase in g will require a greater overall price fall).
weaker the income effects in the demand for non-tradeables (which exert upward pressure on \( p_M \)).

Even if employment in both the indigenous sectors falls, however, total employment may yet rise because of the expansion of \( M \). It seems a strong possibility however that indigenous employment losses out more under flexible than under fixed exchange rates.

3. Concluding Comments

Even ruling out the possibility that indigenous manufacturing and multinational companies compete for scarce factors of production, we find that the inflow of multinationals would crowd-out the first sector. This occurs through the "spending effect" familiar from Dutch-disease models. During the period when the exchange rate was linked to sterling, however, the increase in non-tradeables employment would have been greater than the decline in indigenous manufacturing, so our model does not support the proposition that the programme of attracting multinationals reduced Irish employment.

Our model does suggest however that the policy could have had less benevolent consequences in the era of greater exchange rate flexibility. This is because in this case the multinational inflow is associated with a strengthening of the currency rather than an overall surplus in the balance of payments (the "liquidity effect" in the Dutch-disease literature). This strengthening of the currency could be compounded by a further deflationary shock, i.e. a fall in the equilibrium price of non-tradeables. If the deflationary shocks meet with a downwardly-rigid nominal wage, unemployment may increase. (The caveat is required because the multinational inflow, ceteris paribus, raises employment). Even if nominal wages become more flexible over time, long-term unemployment can rise if hysteresis is present [Barry (1994c)].

Besides the Dutch-disease model focused upon here, there are a number of other mechanisms that could underlie the apparent crowding-out of indigenous manufacturing employment by multinational companies that was graphed in Figure 1. These are discussed in some detail in Barry (1994b).

One possibility is that barriers to entry inhibit the success of indigenous companies in the international marketplace. This is suggested by the fact that the share of increasing-returns-sector indigenous employment in total manufacturing employment fell consistently from 1973 to 1993, as part of a process identified by Krugman and Venables (1990). Over the same time period the share of IRS-sector multinational employment in total manufacturing employment rose (much more substantially).

Further evidence is provided by O'Malley (1992) who shows that only 23% of indigenous manufacturing employment is in IRS sectors, compared to an EU-9 average of 57%, while the share of multinational employment in these sectors is very close to the EU average. Furthermore, many of the jobs in the indigenous IRS sector are located in non-traded activities.

A second possible explanation of the data in Figure 1 is that the influx of multinationals may have distorted wage-setting behaviour, and worsened unemployment. This is suggested by the fact that many of the former non-traded sectors that have declined in recent decades have not been IRS sectors. Amongst the arguments in favour of this hypothesis is the fact that Ireland's relative wages and salaries per worker have kept pace with the rapid productivity growth largely accounted for by the multinationals. This has clearly priced out many low productivity activities, during which time unemployment has risen dramatically.

Using Baker's (1988) classification of manufacturing industry into Modern and Traditional, Table 4 provides further evidence in favour of this hypothesis.

In the 1980-1992 period output per head in the modern sector grew much more rapidly than in traditional industry. Average weekly earnings, however, grew almost identically in the

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8 This argument is associated with Ireland particularly with O'Malley (1989).

9 Thus wages and salaries per worker rose from 72% of the EU average in 1973 to 94% in 1991, while productivity (GDP per worker) rose from 66% to 90% over the same period.

10 The measure used is real gross output per head. Net output figures would be desirable but are not yet available for the whole period.
two sectors. Concurrently, employment in the sector with rapid productivity growth grew 54% (to a level of 51,900), while employment in the traditional sector, where productivity growth was much slower, declined by 27% (to a level of 140,200).

Table 4: Output per head and average weekly earnings (1980=100)

<table>
<thead>
<tr>
<th></th>
<th>1982</th>
<th>1986</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output per head</td>
<td>113.3</td>
<td>187.5</td>
<td>334.2</td>
</tr>
<tr>
<td>Average earnings</td>
<td>132.2</td>
<td>201.2</td>
<td>250.6</td>
</tr>
<tr>
<td>Employment</td>
<td>112.7</td>
<td>119.3</td>
<td>153.9</td>
</tr>
<tr>
<td>Traditional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output per head</td>
<td>106.0</td>
<td>133.4</td>
<td>167.4</td>
</tr>
<tr>
<td>Average earnings</td>
<td>131.3</td>
<td>188.6</td>
<td>247.0</td>
</tr>
<tr>
<td>Employment</td>
<td>91.4</td>
<td>75.1</td>
<td>72.6</td>
</tr>
</tbody>
</table>

Source: Barry (1994b)

Multinational companies are much more strongly represented in the modern sector. The fact that indigenous firms are confined to the slow-productivity-growth sectors, and the data on employment shares in the IRS sectors discussed above, suggests that there are elements of both crowding-out and the barriers-to-entry problem present.

It is interesting to note that this element of the crowding-out hypothesis, whereby a booming sector distorts wage-determination processes and may thereby raise unemployment, has also been noted in the Dutch-disease literature. Nairn (1979), for example, cited by Gordon (1984), noted that high real wages in the minerals sector of a number of developing countries spread to the rest of the economy, in spite of some degree of wage dualism and low employment levels in minerals, and unemployment worsened.

A third possible explanation of the data in Figure 1 is that increased labour-market integration with the UK may have pushed up wages to the levels prevailing there, leading to both unemployment and a situation where only the high-productivity-growth multinationals could survive. This is suggested by Figure 3 below, taken from Fitz Gerald and Honohan (1994).12

Figure 3

A fourth alternative explanation is that the capital grants and tax concessions awarded to business have raised the overall tax burden on labour, giving rise to a situation where, to quote an OECD report from 1986, "no other country had a tax/subsidy system as biased against the use of labour as Ireland's." 13

12 Rather than interpreting this figure as an indication of increased labour mobility (which would be hard to justify) they focus on competitiveness loss, as does the previous explanation. This prevented indigenous firms from competing successfully on foreign markets. When the domestic market was squeezed by deficient aggregate demand from the early 1980s onwards, employment plummeted.

13 Honohan’s (1995) numbers make clear however that the grant cost per job is well below the tax revenue paid by an average industrial worker over the lifetime of an average job (and this ignores savings on social welfare payments). It is much more difficult to calculate the net impact on the tax burden of the low rate of corporation tax payable.

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11 These figures are for nominal earnings. Real earnings grew much more slowly of course (the CPI grew from a value of 100 in 1980 to 223 by 1992), but clearly also grew at almost the same rate in the two sectors.
References


Fitz Gerald, J., and P. Honohan (1994) "Where Did All the Growth Go?", ESRI Medium-Term Review, 5, 5-19.


